

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 1. (Currently amended) A method for implementing a sleep proxy,
2 comprising:
3 receiving a registration request from a device, wherein the registration
4 request contains:
5 sufficient information to allow the sleep proxy to generate a
6 wakeup packet that can wake up the device,
7 a list of requests for which the sleep proxy can answer, and
8 a lease expiration time, wherein upon reaching the lease
9 expiration time, the sleep proxy cancels the device registration; and
10 adding the device to the list of devices for which the sleep proxy answers;
11 receiving a request at the sleep proxy for information pertaining to a
12 service provided by the ~~by~~ a device;
13 determining if the device is a device for which the sleep proxy answers;
14 if so, determining if the request is a request for which the sleep proxy can
15 answer; and
16 if so, sending a response to the request on behalf of the device.

1 2. (Original) The method of claim 1, wherein if the request is not a request
2 for which the sleep proxy can answer, the method further comprises sending a
3 wakeup packet to the device, wherein the wakeup packet is a packet that causes
4 the device to exit a power-saving mode.

1 3-4 (Canceled).

1 5. (Currently amended) The method of claim 1-~~claim 4~~, wherein an
2 internal timer in the device wakes up the device so that the device can renew its
3 registration with the sleep proxy before the registration expires.

1 6. (Original) The method of claim 1, further comprising:
2 receiving a notification from the device that the device is entering a
3 power-saving state; and
4 in response to the notification, configuring the sleep proxy to answer for
5 the device.

1 7. (Original) The method of claim 1, further comprising:
2 receiving a notification from the device that the device has exited a power-
3 saving state; and
4 in response to the notification, configuring the sleep proxy not to answer
5 for the device.

1 8. (Original) The method of claim 1, further comprising implementing a
2 second sleep proxy that duplicates the functionality of the sleep proxy for fault-
3 tolerance purposes.

1 9. (Original) The method of claim 1, wherein sending a response to the
2 request further comprises waiting a random period of time prior to sending the
3 response, wherein waiting the random period of time facilitates duplicate answer
4 suppression between sleep proxies.

1 10. (Currently amended) A computer-readable storage medium storing
2 instructions that when executed by a computer cause the computer to perform a
3 method for implementing a sleep proxy, the method comprising:
4 receiving a registration request from a device, wherein the registration
5 request contains:
6 sufficient information to allow the sleep proxy to generate a
7 wakeup packet that can wake up the device,
8 a list of requests for which the sleep proxy can answer, and
9 a lease expiration time, wherein upon reaching the lease
10 expiration time, the sleep proxy cancels the device registration; and
11 adding the device to the list of devices for which the sleep proxy answers;
12 receiving a request at the sleep proxy for information pertaining to a
13 service provided by the ~~by a~~ device;
14 determining if the device is a device for which the sleep proxy answers;
15 if so, determining if the request is a request for which the sleep proxy can
16 answer; and
17 if so, sending a response to the request on behalf of the device.

1 11. (Original) The computer-readable storage medium of claim 10,
2 wherein if the request is not a request for which the sleep proxy can answer, the
3 method further comprises sending a wakeup packet to the device, wherein the
4 wakeup packet is a packet that causes the device to exit a power-saving mode.

1 12-13 (Canceled).

1 14. (Currently amended) The computer-readable storage medium of claim
2 10-claim 13, wherein an internal timer in the device wakes up the device so that

3 the device can renew its registration with the sleep proxy before the registration
4 expires.

1 15. (Original) The computer-readable storage medium of claim 10,
2 wherein the method further comprises:
3 receiving a notification from the device that the device is entering a
4 power-saving state; and
5 in response to the notification, configuring the sleep proxy to answer for
6 the device.

1 16. (Original) The computer-readable storage medium of claim 10,
2 wherein the method further comprises:
3 receiving a notification from the device that the device has exited a power-
4 saving state; and
5 in response to the notification, configuring the sleep proxy not to answer
6 for the device.

1 17. (Original) The computer-readable storage medium of claim 10,
2 wherein the method further comprises implementing a second sleep proxy that
3 duplicates the functionality of the sleep proxy for fault-tolerance purposes.

1 18. (Original) The computer-readable storage medium of claim 10,
2 wherein sending a response to the request further comprises waiting a random
3 period of time prior to sending the response, wherein waiting the random period
4 of time facilitates duplicate answer suppression between sleep proxies.

1 19. (Currently amended) An apparatus that implements a sleep proxy,
2 | comprising:

3 a registration mechanism configured to receive a registration request from
4 a device, wherein the registration request contains:
5 sufficient information to allow the sleep proxy to generate a
6 wakeup packet that can wake up the device,
7 a list of requests for which the sleep proxy can answer, and
8 a lease expiration time;
9 a list addition mechanism configured to add the device to the list of
10 devices for which the sleep proxy answers;
11 a cancellation mechanism that is configured to cancel the device
12 registration upon reaching the lease expiration time;
13 a receiving mechanism configured to receive a request at the sleep proxy
14 for information pertaining to a service provided ~~by the~~ by a device;
15 a determination mechanism configured to determine if the device is a
16 device for which the sleep proxy answers;
17 a second determination mechanism configured to determine if the request
18 is a request for which the sleep proxy can answer if the device is a member of the
19 list of devices for which the sleep proxy answers; and
20 a response mechanism configured to send a response to the request on
21 behalf of the device if the request is a request for which the sleep proxy can
22 answer.

1 20. (Original) The apparatus of claim 19, wherein if the request is not a
2 request for which the sleep proxy can answer, the apparatus further comprises a
3 wakeup mechanism configured to send a wakeup packet to the device that causes
4 the device to exit a power-saving mode.

1 21-22 (Canceled).

1 | 23. (Currently amended) The apparatus of claim 19-~~claim 22~~, wherein an
2 internal timer in the device wakes up the device so that the device can renew its
3 registration with the sleep proxy before the registration expires.

1 24. (Original) The apparatus of claim 19, further comprising:
2 a notification mechanism configured to receive a notification from the
3 device that the device is entering a power-saving state; and
4 a configuration mechanism configured to configure the sleep proxy to
5 answer for the device in response to the notification.

1 25. (Original) The apparatus of claim 19, further comprising:
2 a notification mechanism configured to receive a notification from the
3 device that the device has exited a power-saving state; and
4 a configuration mechanism configured to configure the sleep proxy not to
5 answer for the device in response to the notification.

1 26. (Original) The apparatus of claim 19, further comprising a second
2 sleep proxy that duplicates the functionality of the sleep proxy for fault-tolerance
3 purposes.

1 27. (Original) The apparatus of claim 19, wherein the response mechanism
2 is further configured to wait a random period of time prior to sending the
3 response, wherein waiting the random period of time facilitates duplicate answer
4 suppression between sleep proxies.